

BAB III

PERANCANGAN SISTEM

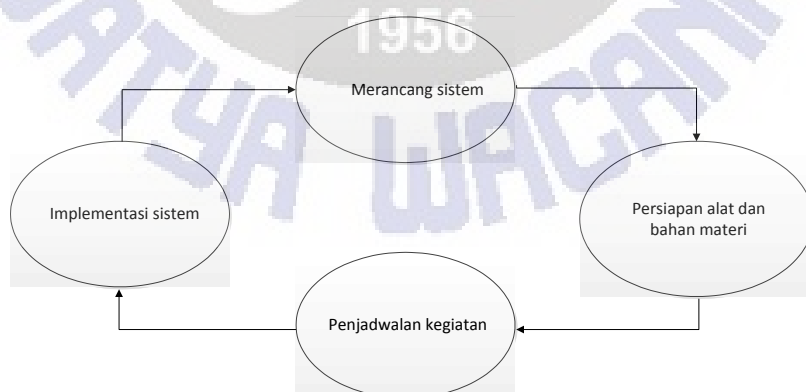
3.1 Rancangan Sistem

Pada bab ini akan membahas tentang metode perancangan sistem dalam pembuatan Samba File Server dengan Auto Failover Network File Sistem (NFS) berbasis Linux. Metode perancangan sistem yang akan digunakan adalah sebagai berikut:

1. Merancang sistem
2. Persiapan alat dan bahan materi
3. Penjadwal kegiatan
4. Implementasi sistem

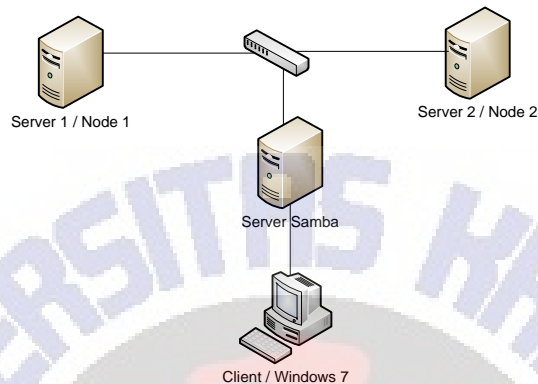
Berikut merupakan gambaran rancangan pelaksanaan dan rancangan system pembuatan Samba File Server dengan Auto Failover Network File Sistem (NFS) berbasis Linux dapat dilihat pada gambar dibawah ini.

a. Rancangan Pelaksanaan



Gambar 3.1 Rancangan Pelaksanaan 1.0

b. Rancangan Sistem



Gambar 3.2 Rancangan Sistem 1.0

3.2 Implementasi Sistem

Dalam metode analisa ini adapun beberapa tahapan yang harus dilakukan antara lain:

1. Menginstal Virtual Box
2. Menginstal linux dan windows 7 di Virtual Box
3. Melakukan penginstalan paket – paket yang akan digunakan pada linux, paket tersebut antara lain yaitu :
 - a. Drbd
 - b. Nfs Server
 - c. Heartbeat
 - d. Samba Server
 - e. Samba Client
4. Melakukan konfigurasi paket – paket yang digunakan pada linux, antara lain konfigurasi:
 - a. Drbd

Pertama – tama lakukan konfigurasi interface LAN dan CrossOver (DRBD) dengan perintah :
 “nano /etc/network/interfaces”

```

GNU nano 2.4.2      File: /etc/network
# The primary network interface
auto enp0s3
iface enp0s3 inet static
    address      192.168.1.172
    netmask       255.255.255.0
    network       192.168.1.0
    gateway       192.168.1.1

auto enp0s8
iface enp0s8 inet static
    address      172.16.0.2
    netmask       255.255.255.0
    network       172.16.0.0

```

Gambar 3.3 Konfigurasi Drbd 1.0

```

GNU nano 2.4.2      File: /etc/network
iface enp0s3 inet static
    address      192.168.1.173
    netmask       255.255.255.0
    network       192.168.1.0
    gateway       192.168.1.1

auto enp0s8
iface enp0s8 inet static
    address      172.16.0.3
    netmask       255.255.255.0
    network       172.16.0.0

```

Gambar 3.4 Konfigurasi Drbd 1.1

Cek koneksi untuk bukti terhubung internet dengan perintah :
“ping 8.8.8.8”

```

root@node1:/home/meila# ping 8.8.8.8
PING 8.8.8.8 (8.8.8.8) 56(84) bytes of data.
64 bytes from 8.8.8.8: icmp_seq=1 ttl=45 time=55.7 ms
64 bytes from 8.8.8.8: icmp_seq=2 ttl=45 time=50.6 ms
64 bytes from 8.8.8.8: icmp_seq=3 ttl=45 time=44.8 ms
64 bytes from 8.8.8.8: icmp_seq=4 ttl=45 time=95.4 ms
64 bytes from 8.8.8.8: icmp_seq=5 ttl=45 time=46.5 ms

```

Gambar 3.5 Konfigurasi Drbd 1.2

```

root@node2:/home/meila# ping 8.8.8.8
PING 8.8.8.8 (8.8.8.8) 56(84) bytes of data.
64 bytes from 8.8.8.8: icmp_seq=7 ttl=45 time=2401 ms
64 bytes from 8.8.8.8: icmp_seq=8 ttl=45 time=1399 ms
64 bytes from 8.8.8.8: icmp_seq=9 ttl=45 time=391 ms
64 bytes from 8.8.8.8: icmp_seq=10 ttl=45 time=349 ms
64 bytes from 8.8.8.8: icmp_seq=11 ttl=45 time=287 ms

```

Gambar 3.6 Konfigurasi Drbd 1.3

Lakukan konfigurasi DNS pada ke dua server, dengan perintah :

“nano /etc/hosts”

```
GNU nano 2.4.2      File: /etc/hosts
127.0.0.1      localhost
127.0.1.1      ubuntu

# The following lines are desirable for IPv6 capable hosts
::1      localhost ip6-localhost ip6-loopback
ff02::1  ip6-allnodes
ff02::2  ip6-allrouters

127.0.0.1      localhost.localdomain      localhost
192.168.1.172  node1.clusterbr.int      node1
192.168.1.173  node2.clusterbr.int      node2
192.168.1.170  dbip.clusterbr.int      node2
```

Gambar 3.7 Konfigurasi Drbd 1.4

Cek koneksi ke dua server dengan perintah :

- Node 1

melalui interface LAN : “ping node2”

```
root@node1:/home/meila# ping node2
PING node2.clusterbr.int (192.168.1.173) 56(84) bytes of data.
64 bytes from node2.clusterbr.int (192.168.1.173): icmp_seq=1 ttl=64 time=18.8 m
s
64 bytes from node2.clusterbr.int (192.168.1.173): icmp_seq=2 ttl=64 time=4.13 m
s
64 bytes from node2.clusterbr.int (192.168.1.173): icmp_seq=3 ttl=64 time=1.89 m
s
--- node2.clusterbr.int ping statistics ---
3 packets transmitted, 3 received, 0% packet loss, time 2013ms
rtt min/avg/max/mdev = 1.895/0.282/18.823/7.509 ms
```

Gambar 3.8 Konfigurasi Drbd 1.5

melalui CrossOver (DRBD) : “ping 172.16.0.3”

```
root@node1:/home/meila# ping 172.16.0.3
PING 172.16.0.3 (172.16.0.3) 56(84) bytes of data.
64 bytes from 172.16.0.3: icmp_seq=1 ttl=64 time=1.33 ms
64 bytes from 172.16.0.3: icmp_seq=2 ttl=64 time=2.79 ms
64 bytes from 172.16.0.3: icmp_seq=3 ttl=64 time=0.000 ms
--- 172.16.0.3 ping statistics ---
3 packets transmitted, 3 received, 0% packet loss, time 2008ms
rtt min/avg/max/mdev = 0.000/1.376/2.793/1.141 ms
```

Gambar 3.9 Konfigurasi Drbd 1.6

- Node 2

melalui interface LAN : “ping node2”

```
root@node2:/home/meila# ping node1
PING node1.clusterbr.int (192.168.1.172) 56(84) bytes of data.
64 bytes from node1.clusterbr.int (192.168.1.172): icmp_seq=1 ttl=64 time=0.875 ms
64 bytes from node1.clusterbr.int (192.168.1.172): icmp_seq=2 ttl=64 time=2.72 ms
64 bytes from node1.clusterbr.int (192.168.1.172): icmp_seq=3 ttl=64 time=3.74 ms
^C
--- node1.clusterbr.int ping statistics ---
3 packets transmitted, 3 received, 0% packet loss, time 2007ms
rtt min/avg/max/mdev = 0.875/2.448/3.745/1.189 ms
```

Gambar 3.10 Konfigurasi Drbd 1.7

Melalui CrossOver (DRBD) : “ping 172.16.0.2”

```
root@node2:/home/meila# ping 172.16.0.2
PING 172.16.0.2 (172.16.0.2) 56(84) bytes of data.
64 bytes from 172.16.0.2: icmp_seq=1 ttl=64 time=1.03 ms
64 bytes from 172.16.0.2: icmp_seq=2 ttl=64 time=6.10 ms
64 bytes from 172.16.0.2: icmp_seq=3 ttl=64 time=5.81 ms
64 bytes from 172.16.0.2: icmp_seq=4 ttl=64 time=0.000 ms
--- 172.16.0.2 ping statistics ---
4 packets transmitted, 4 received, 0% packet loss, time 3024ms
rtt min/avg/max/mdev = 0.000/3.237/6.106/2.748 ms
```

Gambar 3.11 Konfigurasi Drbd 1.8

Konfigurasi DRBD pada ke dua server dengan perintah:

“nano /etc/drbd.conf”

```
GNU nano 2.4.2      File: /etc/drbd.conf      Modified
# You can find an example in /usr/share/doc/drbd.../drbd.conf.example
#include "drbd.d/global_common.conf";
#include "drbd.d/*.res";
resource postgres {
    protocol C;
    handlers {
        pri-on-incon-degr "echo 0 > /proc/sysrq-trigger ; halt -f";
        pri-lost-after-sb "echo 0 > /proc/sysrq-trigger ; halt -f";
        local-io-error "echo 0 > /proc/sysrq-trigger ; halt -f";
        outdate-peer "/usr/lib/heartbeat/drbd-peer-outdater -t 5";
    }
    startup {
        degr-wfc-timeout 120;
    }
    disk {
        on-io-error detach;
    }
    net {
```

```

net {
    cram-hmac-alg sha1;
    shared-secret "password";
    after-sb-0pri disconnect;
    after-sb-1pri disconnect;
    after-sb-2pri disconnect;
    rr-conflict disconnect;
}

syncer {
    rate 100M;
    verify-alg sha1;
    al-extents 257;
}

on node1 {
    device /dev/drbd0;
    disk /dev/sdb1;
    address 172.16.0.2:7788;
    meta-disk internal;}

on node2 {
    device /dev/drbd0;
    disk /dev/sdb1;
    address 172.16.0.3:7788;
    meta-disk internal;}

```

Gambar 3.12 Konfigurasi Drbd 1.9

Lalu simpan dengan perintah :

“CTRL+O, Enter, CTRL + X”

Kemudian, Untuk membuat metadata / partisi pada ke dua server, dengan perintah :

“drbdadm create-md postgres”

- Server 1

```
root@node1:/home/meila# drbdadm create-md postgres_
```

Gambar 3.13 Konfigurasi Drbd 1.10

- Server 2

```
root@node2:/home/meila# drbdadm create-md postgres_
```

Gambar 3.14 Konfigurasi Drbd 1.11

Aktifkan DRBD pada ke dua server, dengan perintah :

“/etc/init.d/drbd start”

- Server 1

```
root@node1:/home/meila# /etc/init.d/drbd start
[ ok ] Starting drbd (via systemctl): drbd.service.
root@node1:/home/meila# _
```

Gambar 3.15 Konfigurasi Drbd 1.12

- Server 2

```
root@node2:/home/meila# /etc/init.d/drbd start
[ ok ] Starting drbd (via systemctl): drbd.service.
root@node2:/home/meila# _
```

Gambar 3.16 Konfigurasi Drbd 1.13

Buat node 1 menjadi primary server, dengan perintah :

“drbdadm-- --overwrite-data-of-peer primary all”

```
root@node1:/home/meila# drbdadm-- --overwrite-data-of-peer primary all
```

Gambar 3.17 Konfigurasi Drbd 1.14

Tambahkan file system pada disk /dev/drbd0, dengan perintah mount :

“mkfs.ext3 /dev/drbd0”

“mount /dev/drbd0 /srv”

Lalu dilanjut dengan perintah :

“nano /etc/fstab”

```
GNU nano 2.4.2      File: /etc/fstab

# /etc/fstab: static file system information.
#
# Use 'blkid' to print the universally unique identifier for a
# device; this may be used with UUID= as a more robust way to name devices
# that works even if disks are added and removed. See fstab(5).
#
# <file system> <mount point> <type> <options>      <dump> <pass>
# / was on /dev/sda5 during installation
UUID=422daa29-14c9-4164-b306-7ff2d5b2e9b9 /      ext3      errors=remoun$
# /boot was on /dev/sda1 during installation
UUID=8750270a-bae7-4b82-ab16-aca98e4ff997 /boot  ext3      defaults    $
# swap was on /dev/sda6 during installation
UUID=27f17aa7-7e55-4d19-9262-610fe3df2175 none   swap      sw          $
/dev/drbd0 /mnt    ext3      noatime,noauto,nobarrier 0      0
```

Gambar 3.18 Konfigurasi Drbd 1.15

Lalu masukkan perintah :

“dd if=/dev/zero of=/dev/sdb bs=10M count=10”



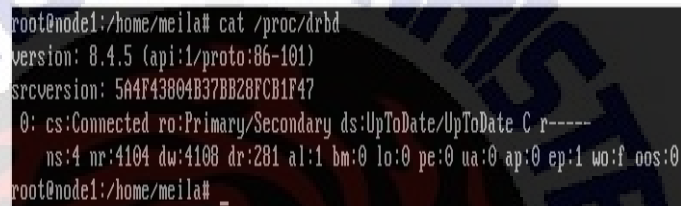
```
root@node1:/home/meila# dd if=/dev/zero of=/dev/sdb bs=10M count=10_
```

Gambar 3.19 Konfigurasi Drbd 1.16

Cek sinkronisasi ke dua server, dengan perintah :

“/cat/proc/drbd”

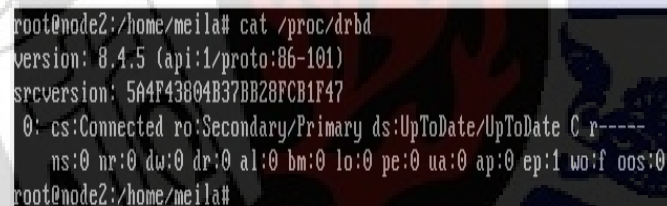
- Server 1



```
root@node1:/home/meila# cat /proc/drbd
version: 8.4.5 (api:1/proto:86-101)
srcversion: 5A4F43804B37BB28FCB1F47
0: cs:Connected ro:Primary/Secondary ds:UpToDate/UpToDate C r-----
    ns:4 nr:4104 dw:4108 dr:281 al:1 bm:0 lo:0 pe:0 ua:0 ap:0 ep:1 wo:f oos:0
root@node1:/home/meila#
```

Gambar 3.20 Konfigurasi Drbd 1.17

- Server 2



```
root@node2:/home/meila# cat /proc/drbd
version: 8.4.5 (api:1/proto:86-101)
srcversion: 5A4F43804B37BB28FCB1F47
0: cs:Connected ro:Secondary/Primary ds:UpToDate/UpToDate C r-----
    ns:0 nr:0 dw:0 dr:0 al:0 bm:0 lo:0 pe:0 ua:0 ap:0 ep:1 wo:f oos:0
root@node2:/home/meila#
```

Gambar 3.21 Konfigurasi Drbd 1.18

b. Nfs Server 1956

Lakukan pengeksporan data pada ke dua server,

dengan perintah :

“nano /etc/exports”

-Server 1


```

GNU nano 2.4.2      File: /etc/exports

# /etc/exports: the access control list for filesystems which may be exported
#                to NFS clients.  See exports(5).
#
# Example for NFSv2 and NFSv3:
# /srv/homes      hostname1(rw,sync,no_subtree_check) hostname2(ro,sync,no_sub$
#
# Example for NFSv4:
# /srv/nfs4       gss/krb5i(rw,sync,fsid=0,crossmnt,no_subtree_check)
# /srv/nfs4/homes gss/krb5i(rw,sync,no_subtree_check)
#
/mnt/drbd/data    192.168.1.0/255.255.255.0(rw,async,no_subtree_check,fsid=0)

```

Gambar 3.22 Konfigurasi Nfs Server 1.0

-Server 2

```

GNU nano 2.4.2      File: /etc/exports

# /etc/exports: the access control list for filesystems which may be exported
#                to NFS clients.  See exports(5).
#
# Example for NFSv2 and NFSv3:
# /srv/homes      hostname1(rw,sync,no_subtree_check) hostname2(ro,sync,no_sub$
#
# Example for NFSv4:
# /srv/nfs4       gss/krb5i(rw,sync,fsid=0,crossmnt,no_subtree_check)
# /srv/nfs4/homes gss/krb5i(rw,sync,no_subtree_check)
#
/mnt/drbd/data    192.168.1.0/255.255.255.0(rw,async,no_subtree_check,fsid=0)

```

Gambar 3.23 Konfigurasi Nfs Server 1.1

c. Heartbeat

Konfigurasi heartbeat pada ke dua server, dengan perintah :

“nano /etc/heartbeat/ha.cf”

```

GNU nano 2.4.2      File: /etc/heartbeat/ha.cf

logfacility    local0
keepalive     2
deadtime      30
warntime      10
initdead      120

bcast        enp0s3
bcast        enp0s8
node         node1
node         node2

# Give cluster 30 second to start
initdead 30
# Keep alive packets every 1 second
keepalive 1
# Misc settings
traditional_compression off
deadtime 10
deadping 10
warntime 5
# Nodes in cluster
initdead 30
# Keep alive packets every 1 second
keepalive 1
# Misc settings
traditional_compression off
deadtime 10
deadping 10
warntime 5
# Nodes in cluster
node node1 node2
# Use ipmi to check power status and reboot nodes
#stonith_host node1 external/ipmi node1 192.168.1.172 ADMIN somepwd lan
#stonith_host node2 external/ipmi node1 192.168.1.173 ADMIN somepwd lan
# Use logd, configure /etc/logd.cf
use_logd on
# Don't move service back to preferred host when it comes up
auto_failback off
# If all system are down, it's failure
# Takover if pings (above) fail:
respaun hacluster /usr/lib/heartbeat/ipfail
#stonith host node1 external/ipmi node1 192.168.1.172 ADMIN somepwd lan
#stonith host node2 external/ipmi node1 192.168.1.173 ADMIN somepwd lan
# Use logd, configure /etc/logd.cf
use_logd on
# Don't move service back to preferred host when it comes up
auto_failback off
# If all system are down, it's failure
# Takover if pings (above) fail:
respaun hacluster /usr/lib/heartbeat/ipfail

### Use unicast instead of default multicast so firewall rules are easier
# node1
ucast enp0s3 192.168.1.172
ucast enp0s8 172.16.0.2
# node2
ucast enp0s3 192.168.1.173
ucast enp0s8 172.16.0.3

^G Get Help ^O Write Out ^W Where Is ^K Cut Text ^J Justify ^C Cur Pos
^X Exit ^R Read File ^E Replace ^U Uncut Text ^T To Spell ^_ Go To Line

```

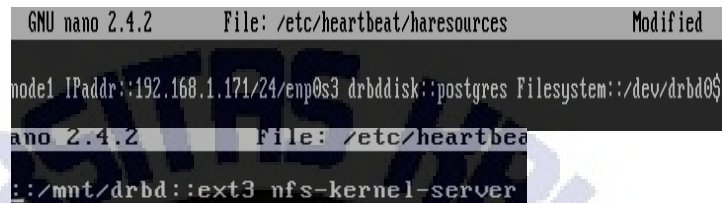
Gambar 3.24 Konfigurasi Heartbeat 1.0

Membuat ip virtual yang menandakan primary server pada ke dua server, dengan perintah :

```

“node1 IPaddr::192.168.1.171/24/enp0s3
drbddisk::postgres
Filesystem::/dev/drbd0::/mnt/drbd::ext3 nfs-kernel-
server”

```



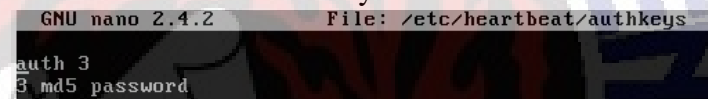
Gambar 3.25 Konfigurasi Heartbeat 1.1

Pemberian password pada heartbeat agar aman pada ke dua server dan hanya bekerja pada root, dengan perintah :

```

“nano /etc/heartbeat/authkeys

```



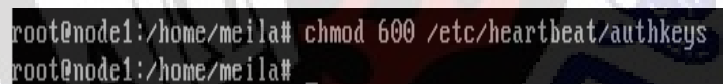
Gambar 3.26 Konfigurasi Heartbeat 1.2

```

“chmod 600 /etc/heartbeat/authkeys”

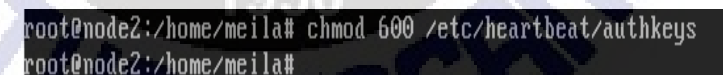
```

- Server 1



Gambar 3.27 Konfigurasi Heartbeat 1.3

- Server 2



Gambar 3.28 Konfigurasi Heartbeat 1.4

Konfigurasi selesai, pengaktifan DRBD dan heartbeat pada ke dua, dengan perintah:

```

“/etc/init.d/drbd start”

```

```

“/etc/init.d/heartbeat start”

```

- Server 1

```

root@node1:/home/meila# /etc/init.d/drbd start
[ ok ] Starting drbd (via systemctl): drbd.service.
root@node1:/home/meila# /etc/init.d/heartbeat start
[ ok ] Starting heartbeat (via systemctl): heartbeat.service.
root@node1:/home/meila# _

```

Gambar 3.29 Konfigurasi Heartbeat 1.5

- Server 2

```

root@node2:/home/meila# /etc/init.d/drbd start
[ ok ] Starting drbd (via systemctl): drbd.service.
root@node2:/home/meila# /etc/init.d/heartbeat start
[ ok ] Starting heartbeat (via systemctl): heartbeat.service.
root@node2:/home/meila# _

```

Gambar 3.30 Konfigurasi Heartbeat 1.6

Cek disk pada ke dua server, dengan perintah :

- Server 1

```

root@node1:/home/meila# df

```

Filesystem	1K-blocks	Used	Available	Use%	Mounted on
udev	172808	0	172808	0%	/dev
tmpfs	37476	4780	32696	13%	/run
/dev/sda5	2817056	1249696	1420928	47%	/
tmpfs	187380	0	187380	0%	/dev/shm
tmpfs	5120	0	5120	0%	/run/lock
tmpfs	187380	0	187380	0%	/sys/fs/cgroup
/dev/sda1	89111	48096	36203	58%	/boot
tmpfs	37476	0	37476	0%	/run/user/1000
/dev/drbd0	1014612	1312	960928	1%	/mnt/drbd

```

root@node1:/home/meila# _

```

Gambar 3.31 Konfigurasi Heartbeat 1.7

- Server 2

```

root@node2:/home/meila# df

```

Filesystem	1K-blocks	Used	Available	Use%	Mounted on
udev	172812	0	172812	0%	/dev
tmpfs	37476	12980	24496	35%	/run
/dev/sda5	2817056	1253280	1417344	47%	/
tmpfs	187380	0	187380	0%	/dev/shm
tmpfs	5120	0	5120	0%	/run/lock
tmpfs	187380	0	187380	0%	/sys/fs/cgroup
/dev/sda1	89111	48088	36211	58%	/boot
tmpfs	37476	0	37476	0%	/run/user/1000

```

root@node2:/home/meila# _

```

Gambar 3.32 Konfigurasi Heartbeat 1.8

d. Samba Server

Untuk menyetting folder yang dapat digunakan, dengan perintah :

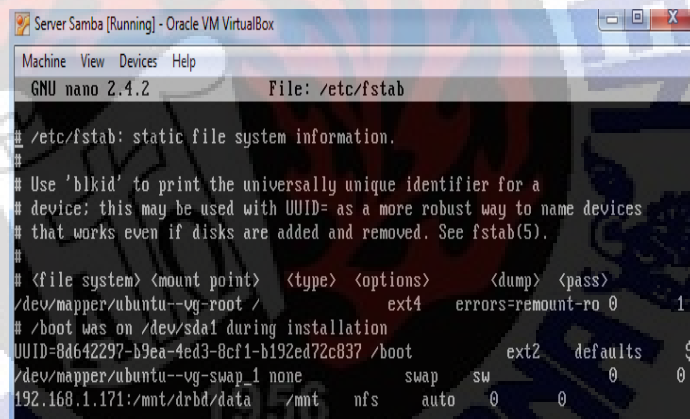
“nano /etc/samba/smb.conf”

```
[meila]
comment      = Folder Share Meila
path          = /mnt
writable     = yes
browseable   = yes
guest ok     = yes
force user   = nobody
force group  = nogroup
```

Gambar 3.33 Konfigurasi Samba Server 1.0

Untuk membuat ip virtual yang menandakan terhubung dengan server, dengan perintah :

“nano /etc/fstab”



```
Server Samba [Running] - Oracle VM VirtualBox
Machine View Devices Help
GNU nano 2.4.2 File: /etc/fstab

# /etc/fstab: static file system information.
#
# Use 'blkid' to print the universally unique identifier for a
# device; this may be used with UUID= as a more robust way to name devices
# that works even if disks are added and removed. See fstab(5).
#
# <file system> <mount point> <type> <options> <dump> <pass>
/dev/mapper/ubuntu--vg-root / ext4 errors=remount-ro 0 1
# /boot was on /dev/sda1 during installation
UUID=8d642297-b9ea-4ed3-8cf1-b192ed72c837 /boot ext2 defaults $
/dev/mapper/ubuntu--vg-swap_1 none swap sw 0 0
192.168.1.171:/mnt/drbd/data /mnt nfs auto 0 0
```

Gambar 3.34 Konfigurasi Samba Server 1.1

Lalu koneksikan secara otomatis samba dengan NFS, dengan perintah :

“mount -a”

“mount /dev/dm-0 / -o remount,rw

Dan cek disk, dengan perintah :

“df”

```

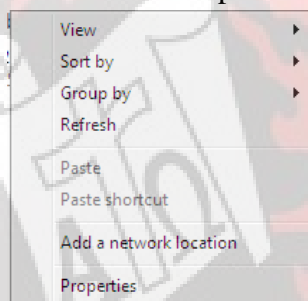
root@samba:/home/meila# mount -a
root@samba:/home/meila# mount /dev/dm-0 / -o remount,rw
root@samba:/home/meila# df
Filesystem            1K-blocks    Used Available Use% Mounted on
udev                  41308         0    41308     0% /dev
tmpfs                 11292     4952     6340    44% /run
/dev/dm-0             7331536 1353344  5582724    20% /
tmpfs                 56456         0    56456     0% /dev/shm
tmpfs                 5120         0     5120     0% /run/lock
tmpfs                 56456         0    56456     0% /sys/fs/cgroup
/dev/sda1             240972     49588   178943    22% /boot
tmpfs                 11292         0    11292     0% /run/user/1000
192.168.1.171:/mnt/drbd/data 1014656    1344   960960     1% /mnt
root@samba:/home/meila#

```

Gambar 3.35 Konfigurasi Samba Server 1.2

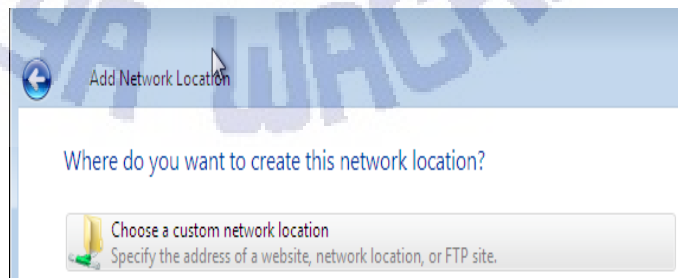
Kemudian membuat network drive pada client, dengan cara :

- Buka explore
- Pilih network
- Klik kanan dan pilih add a network location



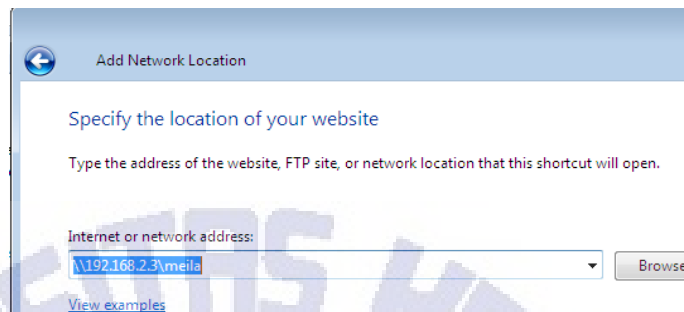
Gambar 3.36 Konfigurasi Samba Server 1.3

- Pilih choose a custom network location dan next



Gambar 3.37 Konfigurasi Samba Server 1.4

- Beri nama network drive dan pilih next

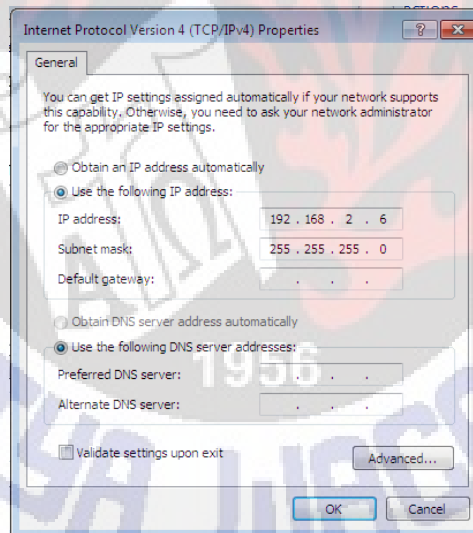


Gambar 3.38 Konfigurasi Samba Server 1.5

- Lakukan next terus hingga finish.

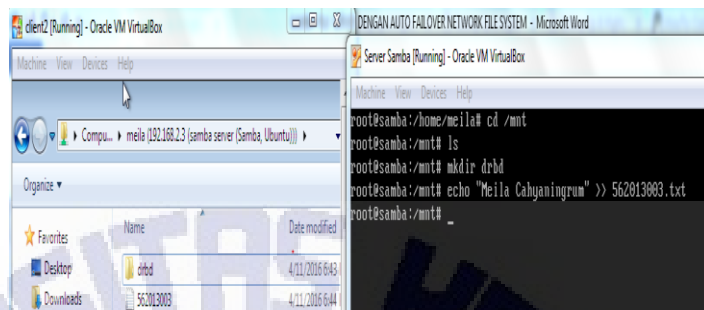
e. Samba Client

Ubah ip client satu kelas dengan samba server, dengan membuka network sharing and center.



Gambar 3.39 Konfigurasi Samba Client 1.0

Hingga menghasilkan network drive yang sinkron dengan samba



Gambar 3.40 Konfigurasi Samba Client 1.1

5. Melakukan pengujian system yang telah dibuat.

Untuk cek ip virtual heartbeat 192.168.1.1 yang ada pada primary server. Ketika server 1 down, server 2 dapat mengambil alih menjadi server primary, cek dengan perintah :

“ifconfig”

- Server 1

```
UP BROADCAST RUNNING MULTICAST  MTU:1500  Metric:1
RX packets:3907 errors:0 dropped:0 overruns:0 frame:0
TX packets:1395 errors:0 dropped:0 overruns:0 carrier:0
collisions:0 txqueuelen:1000
RX bytes:1029403 (1.0 MB)  TX bytes:455992 (455.9 KB)

enp0s8  Link encap:Ethernet  HWaddr 08:00:27:36:0d:f9
        inet addr:172.16.0.2  Bcast:172.16.0.255  Mask:255.255.255.0
        inet6 addr: fe80::a00:27ff:fe36:df9/64 Scope:Link
        UP BROADCAST RUNNING MULTICAST  MTU:1500  Metric:1
        RX packets:4109 errors:0 dropped:0 overruns:0 frame:0
        TX packets:1560 errors:0 dropped:0 overruns:0 carrier:0
        collisions:0 txqueuelen:1000
        RX bytes:1069598 (1.0 MB)  TX bytes:470131 (470.1 KB)

lo      Link encap:Local Loopback
        inet addr:127.0.0.1  Mask:255.0.0.0
        inet6 addr: ::1/128 Scope:Host
        UP LOOPBACK RUNNING  MTU:65536  Metric:1
        RX packets:1758 errors:0 dropped:0 overruns:0 frame:0
        TX packets:1758 errors:0 dropped:0 overruns:0 carrier:0
        collisions:0 txqueuelen:0
        RX bytes:463122 (463.1 KB)  TX bytes:463122 (463.1 KB)

root@node1:/home/meila# _
```

Gambar 3.41 Testing Failover 1.0

- Server 2

```

RX bytes:2278224 (2.2 MB) TX bytes:934204 (934.2 KB)

enp0s3:0 Link encap:Ethernet HWaddr 08:00:27:29:67:0a
        inet addr:192.168.1.171 Bcast:192.168.1.255 Mask:255.255.255.0
        UP BROADCAST RUNNING MULTICAST MTU:1500 Metric:1

enp0s8 Link encap:Ethernet HWaddr 08:00:27:fb:87:8a
        inet addr:172.16.0.3 Bcast:172.16.0.255 Mask:255.255.255.0
        inet6 addr: fe80::a00:27ff:fe8b:878a/64 Scope:Link
        UP BROADCAST RUNNING MULTICAST MTU:1500 Metric:1
        RX packets:9092 errors:0 dropped:0 overruns:0 frame:0
        TX packets:2983 errors:0 dropped:0 overruns:0 carrier:0
        collisions:0 txqueuelen:1000
        RX bytes:5913344 (5.9 MB) TX bytes:871204 (871.2 KB)

lo Link encap:Local Loopback
        inet addr:127.0.0.1 Mask:255.0.0.0
        inet6 addr: ::1/128 Scope:Host
        UP LOOPBACK RUNNING MTU:65536 Metric:1
        RX packets:3085 errors:0 dropped:0 overruns:0 frame:0
        TX packets:3085 errors:0 dropped:0 overruns:0 carrier:0
        collisions:0 txqueuelen:0
        RX bytes:868797 (868.7 KB) TX bytes:868797 (868.7 KB)

root@node2:/home/meila#

```

Gambar 3.42 Testing Failover 1.1

Cek partisi /dev/drbd0 yang harus ada pada primary server, ketika server 1 down, maka server 2 harus dapat mengambil alih menjadi server primary. berikut perintah :
“df” dan cek juga “cat /proc/drbd”

- Server 1

```

root@node1:/home/meila# df
Filesystem            1K-blocks    Used Available Use% Mounted on
udev                  172800      0    172800   0% /dev
tmpfs                  37476      4780     32696  13% /run
/dev/sda5              2817056 1251388    149236   47% /
tmpfs                  187380      0    187380   0% /dev/shm
tmpfs                   5120       0      5120   0% /run/lock
tmpfs                  187380      0    187380   0% /sys/fs/cgroup
/dev/sda1               89111     48096     36203   58% /boot
tmpfs                   37476      0     37476   0% /run/user/1000

root@node1:/home/meila# cat /proc/drbd
version: 8.4.5 (api:1/proto:86-101)
srcversion: 5A4F43804B37BB28FCH1F47
0: cs:Connected ro:Secondary/Primary ds:UpToDate/UpToDate C r-----
   ns:0 nr:4 dw:4 dr:0 al:0 bm:0 lo:0 pe:0 ua:0 ap:0 ep:1 wo:f oos:0
root@node1:/home/meila#

```

Gambar 3.43 Testing Failover 1.2

- Server 2

```

root@node2:/home/meila# df
Filesystem      1K-blocks    Used Available Use% Mounted on
udev            172812         0    172812   0% /dev
tmpfs           37476         4792     32684  13% /run
/dev/sda5       2817056 1255840    141784  48% /
tmpfs           187380         0    187380   0% /dev/shm
tmpfs           5120          0      5120   0% /run/lock
tmpfs           187380         0    187380   0% /sys/fs/cgroup
/dev/sda1       89111    48088     36211  58% /boot
tmpfs           37476         0      37476   0% /run/user/1000
/dev/drbd0      1014612    1312     960928   1% /mnt/drbd
root@node2:/home/meila# cat /proc/drbd
version: 8.4.5 (api:1/proto:86-101)
srcVersion: 5A4F43804B37BB28FCB1F47
0: cs:Connected ro:Primary/Secondary ds:UpToDate/UpToDate C r-----
    ns:8 nr:4108 dw:4112 dr:285 al:1 bm:0 lo:0 pe:0 ua:0 ap:0 ep:1 wo:f oos:0
root@node2:/home/meila#

```

Gambar 3.44 Testing Failover 1.3